

developing countries it is important to assess in which patients the benefit from being given magnesium is sufficient to justify this risk. Treatment is certainly justified in women with eclampsia, in whom evidence from meta-analysis indicates that magnesium reduces mortality. A quarter of the women in the Magpie study had severe pre-eclampsia—very high blood pressure (>170 mm Hg systolic or 110 mm Hg diastolic) with very high proteinuria, or lower blood pressure (150 mm Hg systolic or 100 mm Hg diastolic) with two or more signs of imminent eclampsia such as hyper-reflexia, frontal headache, blurred vision, or epigastric tenderness). In this group it was necessary to treat 63 women to prevent one seizure. In women who did not have such severe pre-eclampsia 109 patients had to be treated to prevent a seizure. Even the women without severe pre-eclampsia were probably quite ill in this study, as almost 75% of them were given antihypertensive treatment. Thus, the Magpie study indicates a very favourable ratio of benefit to risk for magnesium, given according to the protocol, in women with severe pre-eclampsia or requiring antihypertensive treatment.

The safety of magnesium in this study was facilitated by limiting the loading dose of magnesium to 4 g and restricting intravenous administration to 1 g/hour, whereas the intramuscular dose was at 10 g, followed by 5 g every 4 hours. For the loading and intravenous doses this is considerable lower than has been recommended by some, and the safety of higher doses is not assured by this study.<sup>4</sup> In addition, some instruction was undoubtedly provided to the participants in the trial. None the less, as carried out in this protocol with simple clinical assessment and without determining magnesium concentration, treatment with magnesium was safe.

Despite the evidence, this effective treatment has not been used widely. We have few examples in obstetric practice of treatments that have been tested in randomised controlled trials to show efficacy and even fewer that address treatment in the field. Why has this

treatment not become part of the armamentarium of providers of obstetric care throughout the world? The answer is complex, but at least part of the explanation is that this inexpensive generic treatment has no industrial advocate to facilitate licensing, production, and distribution. Another factor is the reluctance of care providers and administrators to change healthcare practice. On behalf of the World Health Organization, Fédération Internationale de Gynécologie et d'Obstétrique, and the International Society for the Study of Hypertension in Pregnancy we advocate the use of magnesium sulphate in the treatment and prevention of eclampsia. We urge nations in which eclampsia has a major impact on maternal mortality to institute policies to ensure that this inexpensive and life saving treatment is made available and that care providers are trained to use it safely.

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## Average length of stay, delayed discharge, and hospital congestion

*A combination of medical and managerial skills is needed to solve the problem*

The NHS is under sustained pressure to cope with rising numbers of hospital admissions. Public concern over waiting on trolleys and delays in access to care has never been greater. The NHS has responded by using its most expensive resource—inpatient beds—more efficiently. Over the past 20 years the average length of stay for each admission has fallen year on year from 11.7 days in 1980 to 6.8 in 1999-2000. Factors have included increased use of day surgery and the recognition that earlier discharge in many conditions was not dangerous and may often be better for the patient.

After nearly 20 years of consistent reductions, the average length of stay has unexpectedly risen from

6.8 days in 1999-2000 to 6.95 days in 2000-1. The rise shown in the national hospital episode statistics for England may seem small in absolute terms, but a 2.5% rise has huge potential costs at all levels of the service. A recent workshop attended by professionals and department of health officers examined the figures and noted that the rise was apparent for both elective admissions (1.0%) and non elective admissions (2.9%), was present in all major adult specialties, and was present in all regions of the country. The changes were too consistent to be dismissed as chance. The largest change (11.5%, in mental health) may be explained by recent changes in service configuration between community and hospital, but the 6.6% increase for

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general medicine (including geriatrics) has no obvious explanation. Furthermore, analysis by age decade shows that the rising average length of stay was present in the over 85s for three years, in the over 75s for two years, and in the over 65s this year. The challenge is to find an explanation.

Delayed discharge has long been a concern.<sup>1,2</sup> There is no agreed definition, so reliable data are scarce, but studies show that delayed placement into institutional care after completion of the assessment and rehabilitative process is an important factor.<sup>3,4</sup> So too are the reductions in numbers of beds in nursing homes, problems in funding from social service budgets, and waits for assessments from therapists or social services, for community services, or for equipment to be ordered, delivered, and installed. Hospitals with greater than 85% occupancy have no flexibility to cope with this.<sup>5</sup>

But there are new factors too. Hospitals are complex systems of health and social care<sup>6</sup>—action in one area usually affects others and not always predictably. Waits on trolleys in the emergency room become inevitable if patients cannot be discharged. If medical teams are concentrated at the front end of the admission, then those same staff cannot also perform the essential tasks of preparing patients for discharge, often on inappropriate wards. Reduced junior doctor hours and introduction of shift working has resulted in less time on the wards to see patients and their relatives, leading to inefficient communication and poor operation of discharge procedures. Integrated working of multidisciplinary teams will have to rely less on junior doctors and may require the development of physician assistants or other staff working in discharge coordinator roles.<sup>7,8</sup>

Patients become acutely ill every day, and there would seem to be opportunities to convert five day radiological and laboratory departments to seven day services. However, a national shortage of radiographers and legal constraints on who can use radiation means that implementation of such plans is difficult.

For consultants (who have an average working week of more than 60 hours<sup>9</sup>) to fill the gaps created by reduced junior doctor hours cannot be done without sacrificing other duties such as outpatient clinics, and other targets such as the two week wait for patients with cancer. Many of these pressures will get worse as the working time directive bites harder in 2004.

There is no single solution. Intermediate care remains an ill defined entity and some schemes have simply reallocated beds currently used for rehabilitation.<sup>10</sup> Intermediate care could have an important role but requires new resources, strong leadership, and dedicated medical time to ensure that it is care of equivalent quality in an alternative environment, not simply cheaper care.

The perverse financial incentives for local social services to ensure timely discharge must be tackled, and perhaps the United Kingdom should consider aligning the financial incentive with the needs of patient care, as in Scandinavia.<sup>11,12</sup> The patient's charter raised expectations of patients and their relatives. Even when they are fit for discharge, patients can elect to remain in hospital until a final placement is found. Does society intend this or should there be legal mechanisms to insist on interim placements?

The national service framework for older people is intended to improve not only the quality of patients' experience but also the efficiency of services; it could help by providing leadership and the right incentives. Most of the answers to these very complex problems lie in combined medical and managerial approaches at local level that result in realistic and achievable recommendations, within clear national planning. The challenge is to ensure the framework and resources are in place to allow such partnerships to function.

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## Correction

### *Growth hormone in growth hormone deficiency*

In this editorial by Paul Saenger (13 July, pp 58-9), we inadvertently mixed up some references and failed to print the author's competing interests. In the reference list, references 7, 8, 9, and 10 should be numbered 8, 9, 10, and 11 respectively; reference 11 should not be there at all; and the new reference 7 should read:

Schoenau E et al on behalf of the Germany Lilly Growth Response Study Group. A new and accurate prediction model for growth response to growth hormone treatment in children with GH deficiency. *Eur J Endocrinol* 2001; 144:13-20.

The sentence "The mean duration of treatment was 6.2 years—the duration of treatment was thus twice as long as the French study and the dose of treatment was also twice as much, that is, 0.3 mg/kg/week (0.9 IU/kg/week compared to 0.14 mg/kg/week)," towards the end of the penultimate paragraph, should be supported by reference 8. Other references numbers in the text remain the same.

Professor Saenger has advised the growth hormone industry on scientific issues and has received honorariums.